

Claims

1. A method for raising the concentration of a first class of immunoglobulin relative to at least a second class of immunoglobulin in a compartment of the body of a non-human animal or progeny thereof, said method comprising providing a cell bordering said compartment, with a nucleic acid encoding a protein capable of transporting a member of said first class of immunoglobulin from the basolateral side to the apical side of said cell.
2. The method according to claim 1, wherein said non-human animal is transgenic for said nucleic acid.
3. The method according to claim 1 or claim 2, wherein said protein comprises polymeric immunoglobulin receptor or a functional part, derivative and/or analogue thereof.
4. The method according to anyone of claims 1-3, wherein said cell comprises a mammary gland cell.
5. The method according to anyone of claims 1-4, wherein said non-human animal is a farm animal.
6. The method according to claim 5, wherein said farm-animal comprises a cow, a goat, a sheep, a camel, a lama and/or a rabbit.
7. The method according to anyone of claims 1-6, wherein said nucleic acid comprises a promoter capable of driving expression of said protein essentially specifically in said cell and/or a functional equivalent of said cell.
8. The method according to anyone of claims 1-7, further comprising inducing and/or

amplifying an antigen specific immunity in said animal.

9. The method according to anyone of claims 1-8, wherein said cell comprises said protein in an amount that is at least 10-fold higher than an endogenously expressed analogous and/or homologous immunoglobulin transporter protein.

10. A non-human animal wherein a cell of said animal comprises a recombinant nucleic acid encoding a protein capable of transporting an immunoglobulin from the basolateral side to the apical side of said cell.

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11. The non-human animal of claim 10, wherein said animal is transgenic for said recombinant nucleic acid.

12. The non-human animal of claim 10 or claim 11, wherein said animal is a farm-animal.

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13. Secretory fluid obtainable from an animal according to anyone of claims 10-12.

14. Secretory fluid according to claim 13, wherein said fluid comprises milk.

15. Use of a method according to anyone of claims 1-9 for obtaining a composition comprising an immunoglobulin.

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16. Use of a non-human animal according to anyone of claims 10-12, for obtaining a composition comprising an immunoglobulin.

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17. A method for collecting an immunoglobulin from a non-human animal comprising providing an secretory cell of said animal with a nucleic acid encoding a protein capable of transporting said immunoglobulin from the basolateral side to the apical side of said cell, the

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method further comprising collecting secretory fluid produced by said cell and/or the tissue said cell is a part of, and obtaining said immunoglobulin.

18. A method according to claim 17, further comprising administering to said animal or a part thereof, a substance capable of enhancing expression of a nucleic acid encoding said protein.

19. A method according to claim 18, wherein said substance comprises interferon-g, interleukin-1, interleukin-4 and/or tumor necrosis factor-a.

20. A method for collecting an immunoglobulin from a non-human animal comprising enhancing expression of a protein capable of transporting said immunoglobulin from the basolateral side to the apical side of an epithelial cell of said animal, the method further comprising collecting secretory fluid produced by said cell and/or the tissue said cell is a part of, and obtaining said immunoglobulin.

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